# Monitoring and Preventing Hazardous Work Exposures

## WHAT IS THE PUBLIC HEALTH PROBLEM?

- Each day, an average of 137 Americans die from work-related diseases, and employers report almost 1,000 new cases of occupational disease.
- Occupational diseases often are insidious, developing slowly over the lifetime of a worker.
- Because the human body often does not give warning about workplace overexposure, special technology is needed to monitor the workplace environment.
- Many businesses (especially small-sized companies) are unable to develop and implement engineering solutions to control exposures and prevent harm to workers.

## WHAT HAS CDC ACCOMPLISHED?

CDC conducts research in laboratories and at work sites to develop procedures and equipment for measuring and controlling occupational health hazards. This research produces practical solutions to improve the health of workers. Many of these projects are particularly important to small- and medium-sized businesses, which usually lack in-house experts in occupational health.

*Examples of program in action:*

- The *National Institute for Occupational Safety and Health Manual of Analytical Methods* provides methods to monitor contaminants in workplace air and in the blood and urine of workers. It is used in workplaces and research laboratories worldwide.
- CDC engineers have created control measures for high-hazard occupations. CDC developed new designs that reduce lead exposures in radiator shops by 90%–98%. CDC also developed fume controls for asphalt paving machines used in the construction of highways; all machines manufactured after 1997 are equipped with these controls.

## WHAT ARE THE NEXT STEPS?

Future activities will focus on addressing the health protection needs of employees working at small- and medium-sized businesses. In addition, the latest technologies (e.g., advanced microprocessors and sensors) will be used to develop faster, less expensive, and more accurate ways to monitor exposure to chemicals, physical agents, and ergonomic hazards. CDC is planning to conduct new studies regarding a) control technology in the silica, mining, construction, and pharmaceutical industries and b) ventilation system vulnerability in the event of biological and chemical threats.

*For additional information on this and other CDC programs, visit www.cdc.gov/programs* *February 2003*